

ABSTRACT OF THE DISCLOSURE

Disclosed is a method for modulating data for a polarity alternated pulse width code division multiple access (PAPW/CDMA) system and a method for measuring a distance between communicating equipments using the PAPW/CDMA. The method for modulating data includes the steps of multiplying CDMA signals inputted from multiple channels by a selected mask pattern, selecting the mask pattern among predetermined mask patterns that have the least peak value, truncation of multiplied CDMA signals according to a predetermined magnitude of levels to form level-number-reduced signals, converting the level-number-reduced signals to pulse width to generate modulated signals having a constant level, and alternately switching a starting polarity of pulses of the modulated signals between "high" and "low". The method for measuring a distance between two mobile stations using a polarity-alternated pulse width CDMA method, comprising the steps of transmitting a first frame by a first mobile station, receiving the first frame by a second mobile station, and transmitting a second frame by the second mobile station upon reception of the first frame, wherein the first mobile station measure the distance by subtracting a frame length from an entire delay time to form a second value, dividing the first value by 2 to form a second value, and multiplying the second value by transmitted signals.